

96-Port Modular InfiniBand Switch Platform



HPCC Clusters from 64, 96, 128, to Thousands of Nodes

Enabling High Node Count InfiniBand Clusters

This high port count modular InfiniBand switch platform is designed for the flexible deployment of high performance computing clusters (HPCC) and InfiniBand enabled data center systems. The chassis can support from 12 to 96 10Gb/s InfiniBand ports in a Constant Bi-sectional Bandwidth (CBB) fat tree topology that provides full 10Gb/sec throughput and extremely low latency for each port in the switch. A single switch is ideal for building compute clusters of up to 96 nodes and may also be used in combination with additional switches to build large supercomputing clusters consisting of thousands of nodes.



The 7U chassis offers excellent port density and includes a passive midplane design that interconnects four spine boards, eight 12-port leaf boards, two management boards, four power supply modules, and a fan tray. The spine boards, leaf boards, power supplies, and fan tray are all hot swappable. The power supplies and the management board supports redundant operation for higher availability. Each leaf board has 12 external InfiniBand 4X copper ports based on the industry leading InfiniScale™ 10Gb/sec switch silicon from Mellanox. The modular architecture is designed to be upgradeable with leaf and spine cards based on future Mellanox switch technologies.

The switch provides an unprecedented level of performance with the capability to deliver up to 1.92 Terabits of total bandwidth with very low latencies. The switch enables all the key features of InfiniBand fabrics that include Quality of Service, fail-over, RDMA support, virtual lanes, integrated physical layer and more.

Applications

This switch is ideal for the following markets:

- High Performance Computing Clusters (HPCC) for Scientific, Automotive, Seismic, Medical Imaging, and other Numerically Intensive Applications.
- High Node Count Server Clusters
- Enterprise Data Center Switch Aggregation

KEY FEATURES

- Modular 96-port 4X InfiniBand Switch
- Constant Bi-sectional Bandwidth (CBB) Fat Tree Topology
- Very Low Latency
- Up to 1.92 Terabit of Total Bandwidth



Availability

This new switch platform will be made available to end customers through Mellanox OEM partners. Availability to OEM partners is now; partners are expected to announce end user availability as early as Q2, 2003.

MTEK43132-M96-2P

Key Features

- Modular 96-Port InfiniBand Switch
- 1.92 Terabit Switch. (All Ports are 10 Gb/sec (bi-directional) or 96 port x 20 Gb/sec = 1.92 Terabit, full configuration.)
- Constant Bi-Sectional Bandwidth (CBB) Fat Tree Topology
- Supports up to eight 12-Port Leaf Boards with Standard 4X Copper Connectors (Configurations of 12, 24, 36 ... to 96 ports)
- 7U 19" Rack mount Chassis
- Modular -48VDC Hot Swap N+1 Redundant Power Supplies (configurations vary)
- Based upon Industry Leading InfiniScale 10Gb/sec Switch Device from Mellanox
- Chassis Management Board (Redundant and Field Replaceable)
- Chassis Management Software

Leaf Board Features

- Twelve external 4X (10Gb/sec) copper ports enable cluster inter-connect
- Twelve 4X internal connections to the Spine
- Non-Blocking CBB or Fat Tree Topology
- LED Status Indicators for External Ports
- Dual Chassis Management Busses

Spine Board Features

- 24-Ports 4X (10Gb/sec) ports routed to the mid-plane
- Non-Blocking CBB or Fat Tree Topology
- LED Status Indicators for all Internal Links
- Dual Chassis Management Busses

Power Supply Features

- 48V input with Hot Swap Controller
- 500 watts per Power Supply
- Power Supply units 3 and 4 enable N+1 redundancy
- Dual Power Cable inputs

Management Board Features

- Embedded Processor with Linux OS accessible via Ethernet or Serial port
- Chassis Management Bus to all major components (Leaf, Spine, Fan Tray and Power Supplies)
- Redundancy option with second Management board
- Hot Swappable in the redundant configuration

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